

REMARKS

- I. Reconsideration of the rejection of claims 1-33 under 35 U.S.C. §112, first paragraph is respectfully requested.

Reconsideration of the rejection of claims 1-33 is respectfully requested. The Examiner stated that the claims 1-33 contained subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time of the application had possession of the claimed invention. The Examiner states "that the reference to the springs having 'compressive tensioning' force is unclear."

The Applicant has amended the specification to delete the phrase "compressive tension"; however, it should be understood that both the original specification and the specification as now amended, fully and clearly describe the present invention in a way that those skilled in the art would understand.

The specification refers to a "compressive tension" at page 12, line 18 with respect to the first biasing member 100 shown in Fig. 12. The words "compressive tension" mean that the biasing member 100 is compressed and under tension i.e., the biasing member 100 exerts a force both on the engagement member 110 and the roll pin 98. This can be readily seen by comparing the position of the first and second biasing members 100 and 104 in Fig. 2 with the position of the first and second biasing members 100 and 104 in Fig. 3. The discussion at page 12, line 28 and 29, concerning "compressive tension" describes that the second biasing member 104 is no longer

compressed and under tension, but that the first biasing member 100 is now compressed and under tension.

Similarly, at page 13, at line 21, the compressed state of the first biasing means 100 is discussed with respect to the position of the first biasing member, as shown in Fig. 4.

Also similarly, at page 13, lines 28 and 29, by releasing the “compressive tensioning” force on the handle, the first biasing member 100 exerts a biasing force on the securing mechanism 80 in a direction toward the engagement member 110.

Thus, the language “compressive tension” describes an action of a spring (biasing member) when the spring is compressed. The spring is under a tension and puts a force on whatever is holding the spring in that position. This is described in detail in the specification and can be readily seen by comparing the relative positions of the first biasing member 100 and the second biasing member 104 by reviewing, in sequence, Figs. 2, 3, 4 and 5. Applicant submits that the claims are patentably distinct and convey the invention to one skilled in the art since the claims themselves do not contain any “compressive tensioning” language.

Therefore, the Applicant submits that the claims 1-33 meet the requirements of 35 U.S.C. §112, first paragraph, and the Examiner is respectfully requested to withdraw this rejection of claims.

II. Reconsideration of the rejection of claims 3, 11, 12, 17, 18-21 and 28 under 35 U.S.C. §112, second paragraph, is respectfully requested.

The claims have been amended as follows:

With respect to the phrase "the first and second biasing means in claim 11", claim 11 has been amended to depend from claim 4. Applicant submits that this correction of a typographical error overcomes the Examiner's rejection.

With respect to claim 17 and the phrase "the second support" and the phrase "the first support" in claim 18, Applicant has amended independent claim 15 to recite a securing mechanism for securing a first support to a second support. Applicant submits that such amendment of independent claim 15 overcomes the rejection of dependent claims 17-21.

With respect to the phrase "the engagement means" set forth in claim 28, the claim 28 has been amended to recite "engagement member". Applicant submits that such amendment overcomes the rejection of claim 28.

With respect to the claimed angle in claim 3, claim 3 has been amended to recite that the securing pin has been positioned in a right angle with respect to a plane defined by the second support. Such amendment is supported by the drawings and the specification at page 8, lines 23-24.

With respect to claim 20, claim 20 depends from claim 19 which, in turns, depends from now amended claim 15 which recites a securing mechanism for securing

a first support to a second support. Such amendment to claim 15 overcomes the rejection of claim 20.

Applicant submits that such amendments to the claims overcome the Examiner's rejection and the Examiner is respectfully requested to withdraw this rejection of the claims.

III. Reconsideration of the rejection of claims 1-8 and 13-22 under 35 U.S.C. §102(b) over the Perry U.S. Patent No. 3,396,817 reference is respectfully requested.

The present invention relates a locking and securing device having a securing means and a locking means which are both rotatably moveable about a longitudinal axis. This longitudinal rotation (i) allows the securing means to be moveable between a secured position and an unsecured position, and (ii) further allows the locking means to be moveable and between a locked position and an unlocked position.

The locking and securing device of the present invention is simple, elegant and user friendly. In addition, a major advantage of the inventive device over the prior art locks is that the handle on the present inventive device is ergonomically designed such that it is more comfortable and produces less strain on the fingers. Another advantage is that there are no threaded portions on the inventive device. Thus, the user of the present inventive device does not have to be concerned with the many problems that typically occur with threaded locks such as cross threading of the lock during use, burrs

on any threads which cause difficulty in assembling or locking, paint build-up in the threads, and the like. Still another advantage of the present inventive device is that securing of the device is easily and ergonomically achieved by a one-half turn of the handle. In the prior art locks, several full turns are needed to move the lock. Yet another advantage of the present inventive device is that the one-half turn needed to secure the inventive device provides an easy visual check to see if the inventive device is secured. In the prior art locks, a close inspection is needed to see if the lock has been sufficiently moved to a locked position. New claims 40-49 have been added to further claim such features. Support for such new claims is found by viewing the Figures 2-5 and, in particular, in the specification at page 13 through page 15.

There is no teaching or suggestion in the Perry reference of rotating the holding pin 34 about an axis such that any securing means is moved both between a secured position and an unsecured position and between a locked position and an unlocked position. Rather, the Perry reference requires screw threads 38 through a threaded collar member 42 in order to hold the frame and pieces together. The Perry reference does not have the advantage of the locks being first secured, and then further locked to hold the pin in place. Therefore, the Perry reference teaches away from the present invention.

Further, there is no teaching in the Perry reference of a handle, as described in claim 4 in the instant invention, which is integrally formed with the locking means. Still further, the Perry reference fails to teach or suggest a handle means as described in

claim 13 which describes a handle and a securing pin at an angle with respect to each other and in the same plane with respect to each other. Rather, the Perry reference has no handle at all rather just a pin 34 which extends in a one direction only.

In another embodiment of the present invention, as recited in independent claim 15, the securing mechanism described therein includes a longitudinally extending securing pin and a handle positioned in a spaced apart and substantially center relationship with respect to the securing pin. The Perry reference has no handle. Rather, the Perry holding pin 34 extends through a portion of the frame member 40 which is welded to the support 30 in the Perry reference.

In contrast, in the present invention, it can be easily seen by reading the claims and, further, by viewing the figures, that a securing pin and a handle are positioned in a spaced apart and substantially centered relationship with respect to the securing pin. In addition, the dependent claims 16-22, which depend from claim 15, further describe useful embodiments of the present invention. Each of these dependent claims is also patentably distinct over the Perry reference. Therefore, the Examiner is respectfully requested to withdraw this rejection of the claims.

IV. Reconsideration of the rejection of claims 9, 10, 23 and 24 under 35 U.S.C. §102(b) over either the Dye U.S. Patent No. 3,298,728 reference or the Weiland U.S. Patent No. 1,315,266 reference is respectfully requested.

Claims 9 and 10 depend from dependent claim 8 which, in turn, depends from independent claim 1. Claim 1 has been amended to recite that the force is supplied substantially at a coaxial centerpoint of the securing means. Claim 9 recites that the securing means has a second biasing means for holding the locking means in a locked position.

In contrast, the Dye reference relates to an "end gate throw latch" mechanism which used to shut or latch opposing gates together. As clearly shown in the Dye reference in Figs. 1, 2 and 4 therein, the Dye mechanism has a D-shape latch 10, a lock bolt 13 and an offset handle 24. To move the Dye mechanism, a force is applied at the off set D-shaped handle; that is, such a force is off centered and not along a longitudinal axis extending through the lock bolt 13.

In contrast, according to the present invention, the securing means provides that a force is applied at substantially coaxial center point of the securing means rather than in an offset manner as taught by the Dye reference. Thus, the Dye reference requires significant effort to move the off centered D-shape latch 10. In particular, the Dye reference at column 3, lines 35-45, and at column 3, line 74 through column 4, line 20 describes the amount of effort needed to deflect the springs for given loads and move

the latch 10. This amount of extra effort is needed since force is applied to the offset handle 24 in the Dye reference.

The present invention is an improvement over the Dye reference since movement of the securing means in the present invention is accomplished by using a force at a substantially coaxial center point of the securing means. The securing means allows the locking and securing device of the present invention to be readily moved between ~~two~~ positions – 1) secured/unsecured and 2) locked/locked. The Dye reference fails to teach or suggest a lock having two positions for holding the end gates of a trailer together. Therefore, the Dye reference fails to anticipate or teach the present invention and the Examiner is respectfully requested to withdraw this rejection of the claims.

The present invention is also patentably distinct over the Weiland et al. reference.

Claim 1 has been amended to recite that the securing means is moveable by using a force at substantially a coaxial center point of the securing means as defined by a longitudinal axis extending through the securing means.

The Weiland et al. reference describes a spring latch for windows and doors where the latch is also used as a locking bolt. The Weiland reference describes a bolt 11 and a perpendicularly positioned screw 14. The screw 14 is positioned within a sleeve 16 such that the screw and sleeve form a trigger-like finger piece. Movement of the bolt 11 requires a force on the sleeve 16. The bolt 11 moves in a longitudinal

direction due to the offset, non-coaxial force put on the sleeve 16 of the Weiland reference. The non-coaxial force applied in the Weiland reference is at a 90° angle with respect to the movement of the bolt; that is, the force is "offset" and not being applied coaxially to the bolt. Thus, the Weiland reference teaches away from the present invention by requiring a non-coaxial force applied to the bolt.

Therefore, the present is patentably distinct over both the cited Dye and Weiland references and the Examiner is respectfully requested to withdraw this rejection of the claims.

V. Reconsideration of the rejection of claims 11, 12, 25 and 26 under 35 U.S.C. §103 over the Weiland reference in view of the Emmert U.S. Patent No. 1,570,135 reference is respectfully requested.

Claims 11 and 12 and claims 25 and 26 describe embodiments wherein the first and second biasing means are spaced apart from one another by a rivet pin extending radially through the securing means. Claims 11 and 12 depend from independent claim 1, while claims 25 and 26 depend from independent claim 15. Claim 1 has been amended to recite a securing means moveable by using a force at a substantially coaxial center point of the securing means. Support for such amendment is found in the specification at page 9, lines 9-10 and 26-29, page 13, line 12, and as clearly shown in Figs. 2-5. Claim 15 has been amended to recite that the securing mechanism is in "a substantially centered relationship".

As discussed above, the Weiland et al. reference fails to describe a securing means which is moveable by using a force at a substantially ~~coaxially~~ center point of a securing means. The Emmert reference supply any of the deficiencies of the Weiland reference and fails to teach or suggest the present invention since the Emmert reference describes a bolt 5 with a handle that only moves in an axial direction toward an open and closed position. There is no teaching or suggestion in either the Weiland or Emmert references of a "two-position locking device" capable of either (i) moving a securing means and a locking means in a rotatably moveable manner around a longitudinal axis extending through the securing means or (ii) allowing the securing means to be moveable between a secured position and a locked position. Neither the Weiland reference nor the Emmert reference, taken alone or in combination, teaches a locking device which can be in a secured, yet unlocked position, and then be in a secured ~~and~~ locked position. Rather, the Emmert device is prevented from rotatably moving since the Emmert handle can only move in one direction in the opening 8 in the door. Rather, in both the Weiland and Emmert references, the locks are either locked ~~or~~ unlocked. There is no intermediate, or "secure", position, as described in the present invention. The discussion of the rivet pins in claims 11, 12, 25 and 26 describe further embodiments of the present invention for spacing apart the second biasing means. Thus, claims 11, 12, 25 and 26 are further patentably distinct over the invention described in independent claims 1 and 15.

The Weiland and Emmert references, taken alone or in combination, fail to teach or suggest the present invention. Therefore, the Examiner is respectfully requested to withdraw this rejection of the claims.

VI. Reconsideration of the claims 27-33 under 35 U.S.C. §103(a) over the Emmert reference in view of the Weiland reference is respectfully requested.

Independent claim 27 describes a locking and securing device having an engagement member and a securing mechanism. The securing mechanism includes a securing pin which extends in an axial manner through the engagement member. A handle is operatively connected to a second end of the securing pin. Claim 27 has been amended to recite that the handle is in a spaced apart and substantially coaxial centered relationship with respect to the securing pin. A locking member is integrally formed with the handle.

Claim 27 has also been amended to incorporate the language of claim 29 where the locking member includes an engaging section having a distal end for engagement with the engagement means when the locking member is in a locking position. As shown in the figures in the present invention (as particularly shown in Fig. 4 and Fig. 5), the locking member 88 has a distal end 89 which is secured to the engagement member 110 when the securing mechanism is rotated about an axis through the securing pin.

There is no teaching or suggestion either in the Emmert or Weiland references, taken alone or in combination, that a locking member has a distal end which engages an engagement member in order to lock the securing pin such that the securing pin cannot be dislodged except by the two movements of (i) displacing of the securing pin in a longitudinal direction and then (ii) by rotating the handle radially about an axis through the securing pin. Therefore, the present invention, as defined in independent claim 27 and dependent claims 28 and 30-33, is patentably distinct over the cited references and the Examiner is respectfully requested to withdraw this rejection of the claims.

VII. Reconsideration of the rejection of claims 27-32 under 35 U.S.C. §103 over the Masuda U.S. Patent No. 4,263,984 reference in view of the Weiland reference is respectfully requested.

Claim 27, as discussed above, describes a locking and securing device having a handle operatively connected to a securing pin and in a spaced apart and coaxially centered relationship with respect to the securing pin. In contrast, the Masuda reference, in Fig. 6, shows a socket and stopper which has a T- or L-shaped pin slideably inserted in a guide pipe. The Masuda reference shows a pin that is secured in the open or unlocked position, but provides no mechanism to secure the pin in the closed or locked position. There is no teaching or suggestion of moving the Masuda pin to a locked position or of further moving the Masuda pin to a secured position such that

two motions are needed to unlock and unsecure the pin. Rather, there is nothing to prevent the pin in the Masuda reference from becoming dislodged. According to the Masuda reference, there is no hook or locking member to secure the pin within the aperture.

Rather, the Masuda reference relies on a hook bolt which is positioned on different sections of the scaffold, as is shown in Figs. 3 and 4 of the Masuda reference. Further, the Masuda hook uses a rotating nut to hold support posts against an opposing post. The Masuda reference also requires manipulation of two separate devices in order to lock the scaffolding and yet the Masuda reference does not prevent accidental dislodging of the pin 32 from the support post. The Weiland, as fully discussed above, fails to teach or suggest the locking features as recited in claims 27-32. Further, the Weiland reference fails to supply any deficiencies of the Masuda reference.

Therefore, the Examiner is respectfully requested to withdraw this rejection of the claim.

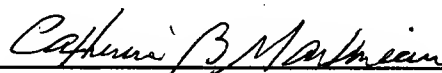
VIII. Claims 34-49 are being added to further define the present invention.

The new claims 34-49 described the relative position of the handle and pin in an x-y-z relationship. Support for such new claims is found in the specification and in the figures, and in particular, at page 10, line 23-page 11, line 5, page 12, lines 25-29,

page 13, lines 14-18 and 27, page 14, line 26, and page 16, line 6. The claims 34-49 are also patentably distinct and a favorable action is respectfully requested.

In view of the amendments to the claims and the arguments contained herein, Applicant submits that the present invention is patentably distinct over the cited references and the Examiner is respectfully requested to allow the present invention.

Respectfully submitted,



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Marked-up Version of the Amended Claim(s)

(37 C.F.R. 1.121(c)(1)(ii))

Please cancel claim 29.

Please amend the claims as follows:

1. (Amended) A locking and securing device for securing a first support to a second support, comprising

a means for securing the first support to the second support, the securing means being movably attached to the first support and being movable between a secured position and an unsecured position with respect to the second support by using a force substantially coaxial center point of the securing means; and,

a means for locking the securing means to the first support when the securing means is in the secured position in the second support, the locking means being integrally formed with the securing means; and,

the securing means and the locking means being rotatably moveable about a longitudinal axis extending through the securing means and being longitudinally moveable along the longitudinal axis thereby allowing the securing means to be moveable between the secured position and the unsecured position and thereby allowing the locking means to be moveable between a locked position and an unlocked position.

3. (Amended) The locking and securing device of claim 2, wherein the securing pin is position at an a right angle with respect to a plane defined by the second support.

11. (Amended) The locking and securing device of claim 4 9, wherein the first and second biasing means are spaced apart from one another by a rivet pin extending radially through the securing means.

15. (Amended) A locking and securing device comprising a securing mechanism for securing a first support to a second support, the securing mechanism including a longitudinally extending securing pin and a handle positioned in a spaced apart and substantially coaxially centered relationship with respect to the securing pin, the securing mechanism further including a locking member positioned adjacent the handle in a spaced apart relationship to the securing pin;

the securing pin being moveable between a secured position and an unsecured position and the locking member being moveable between a locked position and an unlocked position.

25. (Amended) The locking and securing device of claim 24, wherein the first and second biasing members are spaced apart ~~from~~ from one another by a rivet pin extending radially through the securing ~~pins~~ pin.

27. (Amended) A locking and securing device comprising an engagement member and a securing mechanism having a securing pin extending in an axial direction through the engagement member,

the securing pin having a radially extending opening extending therethrough for receiving a rivet pin,

a first biasing member coaxially positioned on the securing pin between the rivet pin and a first end of the securing pin,

a second biasing member coaxially positioned on the securing pin between the rivet pin and a second end of the securing pin,

a handle operatively connected to the second end of the securing pin and in a spaced apart and substantially coaxial centered relationship with respect to the securing pin, and,

a locking member integrally formed with the handle wherein the locking member includes an engaging section having a distal end for engagement with the engagement member when the locking member is in a locked position.

28. (Amended) The locking and securing device of claim 27, wherein the securing pin is positioned at an angle with respect to the engagement ~~means~~ member.

30. (Amended) The locking and securing device of claim 29 27, wherein the engagement member is positioned at substantially an angle with respect to the securing pin.

Please add the following new claims.

34. (New Claim) The locking and securing device of claim 2, wherein the handle is a plane extending through a line define by a Y axis and the securing pin is in a plane extending through a line defined by an X axis, the securing pin and handle being in the same plane as defined by the X and Y axes; the securing pin also being in a spaced apart and parallel relationship with an extending section of the locking member which is also in a plane defined by the X axis.

35. (New Claim) The locking and securing device of claim 34, further including an engaging means in a spaced apart relationship to the handle, the engaging means being in a plane extending through a line defined by a Z axis in a direction away from the X axis, wherein the Z axis is perpendicular to both the X and Y axes such that a distal end extends from the engaging means in a direction

toward the handle whereby the distal end is in a second plane extending through a line defined by a second Y axis.

36. (New Claim) The locking and securing device of claim 15, wherein the handle is a plane extending through a line define by a Y axis and the securing pin is in a plane extending through a line defined by an X axis, the securing pin and handle being in the same plane as defined by the X and Y axes; the securing pin also being in a spaced apart and parallel relationship with an extending section of the locking member which is also in a plane defined by the X axis.

37. (New Claim) The locking and securing device of claim 36, further including an engaging means in a spaced apart relationship to the handle, the engaging means being in a plane extending through a line defined by a Z axis in a direction away from the X axis, wherein the Z axis is perpendicular to both the X and Y axes such that a distal end extends from the engaging means in a direction toward the handle whereby the distal end is in a second plane extending through a line defined by a second Y axis.

38. (New Claim) The locking and securing device of claim 27, wherein the handle is a plane extending through a line define by a Y axis and the securing pin is in a plane extending through a line defined by an X axis, the securing pin and

handle being in the same plane as defined by the X and Y axes; the securing pin also being in a spaced apart and parallel relationship with an extending section of the locking member which is also in a plane defined by the X axis.

39. (New Claim) The locking and securing device of claim 38, further including an engaging means in a spaced apart relationship to the handle, the engaging means being in a plane extending through a line defined by a Z axis in a direction away from the X axis, wherein the Z axis is perpendicular to both the X and Y axes such that a distal end extends from the engaging means in a direction toward the handle whereby the distal end is in a second plane extending through a line defined by a second Y axis.

40. (New Claim) The locking and securing device of claim 1, wherein the securing means has no threaded portion.

41. (New Claim) The locking and securing device of claim 1, wherein the locking means has no threaded portion.

42. (New Claim) The locking and securing device of claim 1, wherein the securing and the locking means are secured by being rotated about one half turn.

43. (New Claim) The locking and securing device of claim 1, wherein the securing and the locking means are secured by being rotated about 160° to about 180° .

44. (New Claim) The locking and securing device of claim 15, wherein the securing mechanism has no threaded portion.

45. (New Claim) The locking and securing device of claim 15, wherein the securing mechanism is secured by being rotated about one half turn.

46. (New Claim) The locking and securing device of claim 15, wherein the securing mechanism is secured by being rotated about 160° to about 180° .

47. (New Claim) The locking and securing device of claim 27, wherein the securing mechanism has no threaded portion.

48. (New Claim) The locking and securing device of claim 27, wherein the securing mechanism is secured by being rotated about one half turn.

49. (New Claim) The locking and securing device of claim 27, wherein the securing mechanism is secured by being rotated about 160° to about 180° .

Marked-up Version of the Replacement Paragraph(s)/Section(s)

(37 C.F.R. 1.121(b)(1)(iii))

At page 12, line 17, delete the word "compressive".

Fig. 2 shows the locking and securing device 10 in an open and unsecured position. The securing mechanism 80 is held or suspended from the side rail 14 by the engagement member 110. In the embodiment shown, the engagement member 110 has a substantially L-shape; however, other shapes are also within the contemplated scope of the invention. The pin 82 of the securing mechanism 80 extends through an opening 112 in a first arm 114 of the engagement member 110. The engagement member 110 has a second arm 116 which extends at an angle from the first arm 114 in a direction toward the first end 90 of the pin 82. The pin 82 axially extends through the opening 112 of the first arm 114 at substantially a right angle. In the open and unlocked position shown in Fig. 2, the second biasing member 104 is under compressive tension.

At page 12, line 28, delete the word "compressive".

At page 12, line 29, delete the word "compressive".

Referring now to Fig. 3, the locking and securing device 10 is shown in a secured position where the side rail 14 is positioned against the vertical support 18. The guard rail socket 40 defines opposing openings 120 and 122 which are in an axial relationship for receiving the pin 82. A further axially positioned opening

124 extends through the side leg 64 of the channel 60 for receiving the first end 90 of the pin 82. The pin 82 is at a right angle with respect to the guard rail support 44 and the channel 60. As shown in Fig. 3, the securing mechanism 80 is moved in a direction of the arrow A by applying a force, or pushing, on the handle 84. The securing mechanism 80 is moved in an axial direction along the X axis such that the second biasing member 104 is no longer under compressive tension, but the first biasing member 100 is now under compressive tension. The first end 90 of the pin 82 passes through the openings 120 and 122 of the guard rail socket 40 and through the opening 124 in the side leg 64 of the channel 60. The first biasing member 100 is compressed between a first side 43 of the guard rail socket 40 and the pin 98.